UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/189,099	11/09/98	RITZEN B	34648-415

WM01/0327

RICHARD J MOURA
JENKENS & GILCHRIST
3200 FOUNTAIN PLACE
1445 ROSS AVENUE
DALLAS TX 75202-2799

EXAMINER	
WOLDETATIOS,Y	
ART UNIT	**PAPER NUMBER**
2684	10

DATE MAILED: 03/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/189,099	RITZEN ET AL.	
	Examiner	Art Unit	
	Yemane Woldetatios	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☐ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5 and 8* .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 4, 6-9, 11, 18, 19, 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai (5898682)..

Claim 1. Kanai teaches a method for improving speech quality in a cellular communications network, said method comprising the steps of:

selecting a cell from a plurality of cells forming the cellular communications network (col. 3 lines 55-65);

determining, in response to evaluating a first plurality of mobile reports, a speech quality value within a portion of the cell (col. 6 lines 64 to col. 7 line 6); and

decreasing the portion of the cell when a lower threshold exceeds the speech quality value; or increasing the portion of the cell when the speech quality value exceeds an upper threshold (col. 8 lines 5-26);

Kanai does not specifically disclose evaluating a first plurality of mobile reports received from mobile terminals located within a predetermined distance to a border of a non-cosited cell. However, Kanai discloses evaluating a first plurality of mobile reports (col. 6 lines 6-16).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Kanai by adding means for evaluating mobile reports from mobile terminals located within a predetermined distance to a border of a non-cosited cell in order to avoid interference and undesired handoff.

Claim 2. Kanai teaches the method of Claim 1, wherein said step of decreasing the portion of the cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 27-41).

Claim 4. Kanai teaches the method of Claim 1, wherein said step of increasing the portion of the cell further includes adjusting at least one border offset parameter to increase a size of the portion of the cell (col. 8 lines 21-26).

Claim 6. Kanai does not mention the method of Claim 1, wherein said portion of the cell further includes a cell border area or a section of the cell border area, however, this is inherent in the system.

Claim 7. Kanai teaches the method of Claim 1, further comprising the steps of:

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell, which is inherent in the system;

evaluating a second plurality of mobile reports; and decreasing a portion of the interfering cell to improve the speech quality value in the cell (col. 10 lines 21-41).

Claim 8. Kanai teaches the method of Claim 7, wherein said step of decreasing a portion of the interfering cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the interfering cell, said portion of the interfering cell includes a cell border area or a section of the cell border area (col. 10 line 65 to col. 11 line 7).

Claim 9. Kanai teaches the method of Claim 8, wherein said step of adjusting at least one border offset parameter further includes determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size, which is inherent in the system.

Claim 11. Kanai teaches the method of Claim 1, further comprising the steps of:

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell; and allocating a channel during a call setup or handover on a Broadcast Control Channel frequency used within the interfering cell to improve the speech quality value in the cell, which is inherent in the system.

Claim 18. Kanai teaches a cellular communications network comprising:

a cell; and a first transceiver station located within the cell (col. 3 lines 43-55);

a controller for receiving a first plurality of mobile reports, said controller further including means for determining an average speech quality value of the portion of the cell in response to receiving the first plurality of mobile reports (col. 6 lines 45-54);

means for decreasing the portion of the cell when a lower threshold exceeds the average speech quality value; or means for increasing the portion of the cell when the average speech quality value exceeds an upper threshold (col. 8 lines 21-26);

Kanai fails to disclose a first plurality of mobile terminals located in a portion of said cell and within a predetermined distance to a border of a non-cosited cell said portion includes a cell border area or a section of the cell border area . However, Kanai discloses a plurality of mobile terminals located in a cell (col. 5 lines line 37-45 and Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify kanai by adding plurality of mobile terminals to be located in a portion of the cell and within a

predetermined distance to a border of a non-cosited cell, in order to avoid interference and undesired handoff.

Claims 19 and 21. Kanai teaches the cellular communications network of Claim 18, wherein said means for decreasing the portion of the cell further includes means for adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 5-26).

Claim 27. Kanai teaches the cellular communications network of Claim 18, further comprising an interfering cell that causes interference within said cell, which is inherent in the system, and said controller further includes means for allocating a channel during a call setup or handover on a Broadcast Control Channel frequency used within the interfering cell to improve the average speech quality value in the cell (col. 5 lines 37-45).

3. Claims 3, 5, 6, 10, 12-17, 20 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Ericsson (5884178).

Claims 3 and 5. Kanai fails to teach the method of Claim 1, wherein said step of decreasing or decreasing the portion of the cell further includes adjusting a hierarchical cell structure threshold value of the cell to increase or decrease handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure being effectively used to increase capacity and reduce handoffs in a cellular communication system(col. 2 lines 29-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai by adding means for adjusting hierarchical cell structure as tought in Ericsson in order to maintain communication quality.

Claim 10. Kanai fails to teach the method of Claim 7, wherein said step of decreasing a portion of the interfering cell further includes adjusting a hierarchical cell structure threshold value of the interfering cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network, said portion of the interfering cell includes a cell border area or a section of the cell border area. However, Ericsson teaches hierarchical cell structure being effectively used to increase capacity and reduce handoffs in a cellular communication system(col. 2 lines 29-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai by adding means for adjusting hierarchical cell structure as tought in Ericsson in order to maintain communication quality.

Claim 12. Kanai teaches a method for improving speech quality in a cellular communications network, said method comprising the steps of:

selecting a cell from a plurality of cells forming the cellular communications network (col. 3 lines 55-65);

determining, in response to receiving first plurality of mobile reports, an average speech quality value of the portion of the cell (col. 6 line 64 to col. 7 line 6);

dynamically changing the portion of the cell by decreasing the portion when a lower threshold exceeds the average speech quality value, and increasing the portion when the average speech quality value exceeds an upper threshold (col. 8 lines 21-26);

determining an interfering cell from the plurality of cells, said interfering cell causes interference within said cell, which is inherent in the system;

receiving a first plurality of mobile reports from a first transceiver located in the cell and from a corresponding number of first mobile terminals located in a portion of the cell (col. 5 lines 37-45);

Kanai does not disclose receiving a second plurality of mobile reports from a second transceiver located in the interfering cell and from a corresponding number of second mobile terminals located in the interfering cell. However, this is inherent in the system;

Kanai fails to teach decreasing a portion of the interfering cell to improve the average speech quality value in the cell, said portion of the interfering cell including a cell border area or a section of the cell border area. However, Ericsson teaches a cell border area (col. 1 lines 12-22).Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claims 13 and 14. Kanai teaches the method of Claim 12, wherein said step of decreasing the portion of the cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 5-26). Kanai fails to teach adjusting a hierarchical cell structure threshold value of the cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure (col. 2 lines 16-32).Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai's teaching by Ericsson's in order to enhance system capacity .

Claim 15. Kanai teaches the method of Claim 12, wherein each of the first plurality of mobile reports further includes a plurality of downlink signal strengths and a downlink speech

quality value determined at one of the first plurality of mobile terminals, and an uplink signal strength and an uplink speech quality value determined at the first transceiver (Col. 5 lines 45-52).

Claim 16. Kanai teach the method of Claim 12, wherein said step of decreasing a portion of a cell further includes adjusting at least one border offset parameter to reduce a size of the portion of the cell (col. 8 lines 21-26). Kanai fails to specifically disclose adjusting a hierarchical cell structure threshold value of the interfering cell to increase handovers of ongoing calls to another cell in the different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure being effectively used to increase capacity and reduce handoffs in a cellular communication system(col. 2 lines 29-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai by adding means for adjusting hierarchical cell structure as tought in Ericsson in order to maintain communication quality.

Claim 17. Kanai does not disclose the method of Claim 16, wherein said step of adjusting at least one border offset parameter further includes determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size. However, this is inherent in the system.

Claims 20 and 22. Kanai does not teach the cellular communications network of Claim 18, wherein said means for decreasing the portion of the cell further includes means for adjusting a hierarchical cell structure threshold value of the cell to increase handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure being effectively used to increase

capacity and reduce handoffs in a cellular communication system(col. 2 lines 29-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai by adding means for adjusting hierarchical cell structure as tought in Ericsson in order to maintain communication quality.

Claim 23. Kanai does not mention the cellular communications network of Claim 18, further comprising an interfering cell that causes interference within said cell; a second transceiver station located within the interfering cell; a second plurality of mobile terminals located within the interfering cell.; and said controller for receiving a second plurality of mobile reports, said controller further includes means for decreasing a portion of the interfering cell to improve the average speech quality value in the cell . However, this are inherent in the system;

Claim 24. Kanai teaches the cellular communications network of Claim 23, wherein said means for decreasing the portion of the interfering cell further includes means for adjusting at least one border offset parameter to reduce a size of the portion of the interfering cell (col. 8 lines 5-26).

Claim 25. Kanai does not disclose the cellular communications network of Claim 24, wherein said means for adjusting at least one border offset parameter further includes means for determining a strongest neighbor cell adjacent to the section of the interfering cell to be reduced in size. However, this is inherent in the system.

Claim 26. Kanai fails to teach the cellular communications network of Claim 23, wherein said means for decreasing the portion of the interfering cell further includes means for adjusting a hierarchical cell structure threshold value of the interfering cell to increase

handovers of ongoing calls to another cell in a different layer of the cellular communications network. However, Ericsson teaches hierarchical cell structure being effectively used to increase capacity and reduce handoffs in a cellular communication system(col. 2 lines 29-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanai by adding means for adjusting hierarchical cell structure as tought in Ericsson in order to maintain communication quality.

Response to Arguments

3. Applicant's arguments filed on 1-12-01 have been fully considered but they are not persuasive. Applicant argues that Kanai does not disclose or suggest using reports from mobile terminals that are located within a predetermined distance to the border of a non-cosited cell in order to determine whether to adjust the size of a selected cell. However, Kanai teaches periodically monitoring the uplink signal quality (col. 6 lines 6-16); and further discloses adjusting cell size depending on the received signal. quality (col. 8 lines 21-26).

Further, applicant argues that Ericsson fails to teach or suggest using reports from mobile terminals that are located within a predetermined distance to the border of a non-cosited cell to determine whether to adjust the size of a selected cell. However, Ericsson discloses means of adjusting a hierarchical cell structure in accordance to the received signal quality (col. 2 lines 14-32). Therefore, based on the teaching of Kanai and Ericsson, as shown above, it would have been obvious to one of ordinary skill in the art to include a means of receiving from mobile terminals within a predetermined distance to a border of a non-cocited cell.

Therefore, the examiner believes that the rejected claims are not in condition for allowance at this time.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yemane Woldetatios whose telephone number is 703-308-9596. The examiner can normally be reached on Monday thru Friday: 9-18:30, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter can be reached on 703-308-6732. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6306 for regular communications and 703-308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Yemane Woldetatios
Examiner
Art Unit 2684

yw
March 24, 2001

DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600